

## EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 57142546  
 PUBLICATION DATE : 03-09-82

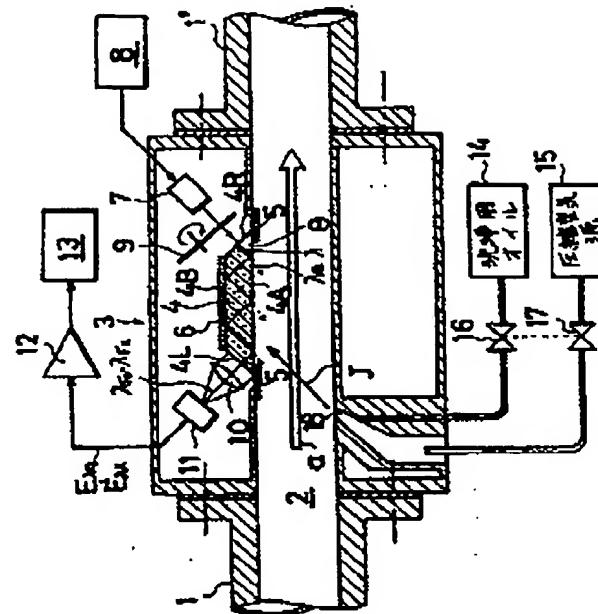
APPLICATION DATE : 28-02-81  
 APPLICATION NUMBER : 56028633

APPLICANT : SHIMADZU CORP;

INVENTOR : HAYASHIDA KAZUHIRO;

INT.CL. : G01N 21/41 G01N 21/35

TITLE : INFRARED MULTIPLE REFLECTION  
 TYPE OIL CONCENTRATION  
 MEASURING APPARATUS



ABSTRACT : PURPOSE: To enable continuous measurement simply without pretreatment such as extraction and emulsification by measuring oil concentration by a full infrared reflection absorption spectrum method with one surface of a multiple reflection element contacting a sample fluid.

CONSTITUTION: A plate-shaped infrared transmission path 4 made of a transparent material with a high refractive index in an infrared region is directly connected to a drain tube 1 where a sample water 2 flows. One side of the infrared transmission path 4 contacts the liquid surface 4A of a sample allowing an infrared beam (with a wavelength of 3.5μm) of a semiconductor laser 7 to enter a photoelectric element 11 by full reflection when no oil components are contained in the sample water 2. A intensity signal  $E_{\lambda}O$  of this fully reflected light is displayed on a indication recorder 13 via an amplifier 12. Then, when any oil component is contained therein, the refractive index on the liquid contact surface 4A varies to generate a refracted light  $\lambda Q$  from the incident light  $\lambda$  so that the intensity of the light detected with the photoelectric element 11 will reduce. The degree of the reduction corresponds to the concentration of the oil concentration.

COPYRIGHT: (C)1982,JPO&Japio

BEST AVAILABLE COPY

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- BLACK BORDERS**
- IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- FADED TEXT OR DRAWING**
- BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- SKEWED/SLANTED IMAGES**
- COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- GRAY SCALE DOCUMENTS**
- LINES OR MARKS ON ORIGINAL DOCUMENT**
- REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**